

ABSTRACT OF THE DISCLOSURE

A process and apparatus for generating hydrogen from oil shale. Crushed oil shale may be placed in a chamber and combusted with carbon monoxide, oxygen and steam to form a gas stream of hydrogen and carbon monoxide. The hydrogen and carbon monoxide stream may be passed through a mechanism to produce hydrogen. In one embodiment, the hydrogen and carbon monoxide stream may be passed through a catalytic converter to produce hydrogen and carbon dioxide. The hydrogen and carbon dioxide may be cooled further and passed through a scrubber to remove the carbon dioxide such that hydrogen is produced. In another embodiment, the hydrogen and carbon monoxide may be passed through fluidized beds of magnetite to produce ~~the hydrogen~~ metallic iron, carbon dioxide and water. The metallic iron may then be conveyed to another chamber, where it may be treated with steam, producing magnetite and hydrogen.